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Protecting nature. Preserving life.™

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October 22, 2008

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Attn: P&G Revision
CECW-ZA
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Re: Comments on Proposed Principles of the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies

The Nature Conservancy appreciates the opportunity to present our comments on the draft Principles of the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* as published in the Federal Register on September 12, 2008 (Federal Register, Vol. 73, No. 178, Pgs. 52960-52964).

The Nature Conservancy is an international, nonprofit organization dedicated to the conservation of biological diversity. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Our on-the-ground conservation work is carried out in all 50 states and in 30 foreign countries and is supported by approximately one million individual members. The Nature Conservancy has protected more than 117 million acres of land and 5,000 miles of river around the world. Our work also includes more than 100 marine conservation projects in 21 countries and 22 US states.

Over the past ten years, the Corps of Engineers has become one of the Conservancy's most important conservation partners. Together, the Conservancy and the Corps are working on a variety of projects to restore critical ecosystems and improve the management of rivers and coastal areas. Based on the number of projects, the Conservancy is the Corps' largest non-federal sponsor, with collaborations on wetland restoration, dam re-operation, dam removal, levee setbacks, floodplain restoration, oyster bed restoration and watershed planning. It is this experience and more than two decades of advances in science and engineering since the existing Principles and Guidelines were put in place that we drew upon in our comments during the June public meeting and in suggesting edits to the draft Principles that are currently under review.

The ultimate goal of this update should be to move away from a water resource policy focused primarily on economic development and to a more comprehensive approach that seeks to balance multiple watershed needs and recognizes the role that natural river and coastal processes play in all types of water resources projects. The Principles should set clear policy goals to ensure such a balanced approach is achieved. The policy promulgated in Section 2031 of the Water Resources Development Act of 2007 (WRDA

2007) provides a clear and useful framework. The three-pronged policy, which places equal emphasis on sustainable economic development, minimizing the unwise use of floodplains, and protecting and restoring natural systems while mitigating for unavoidable impacts should be explicitly reflected in the revised National Planning Objective and should inform all of the policies and protocols defined in the Principles and subsequent Guidelines.

The draft Principles take a step in the right direction by introducing concepts such as watershed-based analysis, non-structural approaches and expanding the focus of water resource planning beyond National Economic Development. However, these Principles as drafted have a long way to go before truly ensuring comprehensive, watershed-based management that equally evaluates and balances all needs within a watershed and ensures long-term sustainability of our nation's water resources. While some of the concepts introduced move us closer to this goal, it is not clear that the ultimate outcome of the planning process using the draft Principles will be much different than the status quo.

With the goal of creating water resource planning Guidelines that balance watershed needs and promote sustainability, our comments provide detailed input and suggestions on how the draft can be improved and highlight areas that are unclear or confusing. However, while we provide comments on the proposed draft, we also believe a more deliberate process is needed before moving forward with completing the Principles or drafting any additional sections. Below we suggest the elements such a consultation process should include.

Process for Updating Principles and Guidelines

As we outlined in our June comments, the Conservancy believes that the revision should be accomplished through an analytical, integrative and inclusive process that ensures that the end product reflects the nation's water resources priorities and effectively guides federal agencies toward meeting those priorities. Such an approach should provide a forum for discussing and articulating a vision for the nation's water policy that builds on the three-pronged policy laid out in Section 2031 of WRDA 2007 – achieving sustainable economic development, avoiding unwise use of floodplains, and protecting and restoring natural systems.

Both the WRDA statute and multiple commenters at the June public meeting suggested concepts for inclusion in this revision such as adaptive management, sustainability, integrated water resources management, best available economic techniques, and the value of nonstructural approaches. These are multifaceted issues, and revising the Principles and Guidelines to incorporate them can only be accomplished through a process that assesses the extent to which the current Principles and Guidelines address these issues, and where they do not, how this update can best incorporate these concepts.

Given the complex and critical nature of this update, we recommend a revision process that convenes water resource experts and stakeholders to evaluate the shortcomings of the current Principles and Guidelines and identifies the issues that should be addressed in the

revision. A document posted on the Corps website following publication of the draft Principles, titled *Survey and Analysis of Criticisms of Corps Planning and Links to Planning Guidance*, offers some analysis of shortcomings of the current Principles and Guidelines. However, neither the revised Principles nor the explanatory information in the Federal Register indicate how this document was addressed or considered in development of the draft Principles. Therefore, we would recommend a formal process consistent with past efforts to update national water policy that involves the National Research Council and additional forums of outside experts. These expert groups should be tasked with evaluating existing research, developing a list of strengths and weaknesses of the current Principles and Guidelines, identifying areas for additional research, highlighting critical issues to be dealt with in the revision, identifying future trends in water resources management, and then based on this analysis recommending appropriate policy changes.

The revision of the Principles and Guidelines provides the nation with a clear opportunity to articulate federal policy and priorities for water management and to bring our water resources policy into the 21st century. Unfortunately, the process of developing draft Principles separately from the operational Guidelines, requesting public comment on a fairly expedited time frame, and then moving forward with finalizing the Principles does not provide the analytical process we feel is needed and makes it difficult to provide useful comments on the revision. Moving forward, we urge the Corps to seek additional stakeholder and expert comment and conduct additional research on the issues that should be addressed in this revision before moving forward with finalizing the draft Principles or undertaking any additional drafting of other sections of the Principles and Guidelines. Following that consultation and any necessary additional investigation, we would recommend proceeding with the drafting of the Standards and Procedures without finalizing the Principles so that each can be evaluated in the context of the other before finalizing the entire document.

Comments on the Proposed Principles

1. Purpose and Scope

The purpose and scope section adequately defines the focus of the Principles. We agree with the statement that the Principles and Guidelines should apply to both new projects and to further investment, modification or re-operation of existing projects. To ensure that the Purpose and Scope of the Principles and Guidelines remains consistent with Congress' statement of National Water Resources Planning Policy, we believe this section would benefit from a restatement of the policy that was outlined in Section 2031 of WRDA 2007.

2. National Planning Objective

The Conservancy believes that the revised Principles and Guidelines should move toward balanced management of water resources that takes into account preservation and restoration of natural river and coastal processes and the sustainability of the ecosystems

and economies that depend on these processes. For decades, our water resources planning has focused on use of water resources to maximize economic gain. However, in recent years ecosystem restoration has become a significant part of the Corps' mission, and advances in engineering and science have shown how working with natural river and coastal processes instead of against them can result in better flood risk management, recreation and navigation projects. Furthermore, natural disasters such as hurricane Katrina demonstrate the immense economic value and public safety benefits that healthy ecosystems can provide. As a result, we recommend the Principles adopt a more comprehensive vision that is based on restoring and maintaining natural river and coastal process to the extent practicable given current uses and conditions.

Water resource planning must move away from project silos that prevent integration, reduce efficiency, and result in sub-optimal outcomes that do not maximize economic or environmental returns. Instead, it should seek sustainability of ecosystems, maintenance of services and functions provided by ecosystems, and planning of projects that have economic benefit consistent with these goals. Furthermore, due to the significant role that services provided by ecosystems play in meeting multiple water resource goals, we believe a standard of no net loss of ecosystem services or functions should be applied to all water resources projects.

While the revised National Planning Objective does modify the strictly economic terms used in the 1983 Principles and Guidelines, we do not feel it is significantly different from the current National Planning Objective. The revised objective fails to propose a vision consistent with sustainable, watershed-based management of water resources. Instead, it maintains a focus on use of water resources without recognizing the critical role of ecosystem restoration or management and restoration of natural river and coastal processes. We recommend revising the National Planning Objective to articulate a more comprehensive long-term vision and incorporate the concepts of long-term sustainability, maintaining and restoring natural processes, preventing the loss of ecosystem services and balancing multiple goals within a watershed. To achieve this, we suggest the following language:

> "The national objective of water and related land resources planning is to foster sustainable management of the Nation's resources, emphasizing a balance between wise economic use of the nation's resources, public safety, long-term ecological sustainability and maintaining and restoring natural processes."

In addition to revising the overarching objective, we suggest more clarity be added in the description of elements that are consistent with the national objective.

- We recommend further defining "sustainable economic development" as economic development that results in no net loss in the services and functions provided by the ecosystem in which the development is located and that considers long-term economic and environmental sustainability of the project.
- The term "significant aquatic ecosystem" needs further definition and clarification in both the Principles and in the subsequent Standards. Significance should be

determined by analyzing whether a project meets ecologically-based goals identified in conservation or restoration plans.

- "Wise use" of water and related land resources needs further clarification. In particular, it should be explicitly stated that "wise use" of floodplains and flood-prone coastal areas should seek to minimize new development in these areas and where possible use natural systems over engineered solutions to reduce flood risk in such areas.
- To be consistent with the goal of creating a water resources planning process that incorporates a consideration of natural processes into all projects, two addition elements should be added to this section clarifying that water and land related resources planning consistent with the National Planning Objective should (1) seek to conserve and restore natural river and hydrological process to the extent practicable in all water resource projects and (2) apply a standard of no net loss of ecosystem services to all projects.

3. Overview

The general overview of the planning process laid out in this section is appropriate. However, we believe it is missing one key component. The planning process must take into account future conditions associated with a changing climate. Climate change has the potential to dramatically affect all types of water resources projects, altering precipitation patterns, hydrology, and frequency of natural disasters. Climate change projections are becoming more accurate and water managers across the country are beginning to analyze how the changes will affect both current and future projects. The planning process should project future conditions, including how future conditions will be affected by climate change. We recommend an additional step in the planning process involving evaluation of expected future conditions, including the impacts of climate change.

4. Watersheds

It is important that water resource planning efforts place multiple water resource projects and objectives into a broader strategic context. We are encouraged by the recognition of the importance of watershed-based planning in the draft Principles. A watershed-based planning approach that considers factors such as how a project will affect the downstream system, is a result of upstream management actions, and is impacted by land use in the watershed, is a critical improvement to the current project planning process. The draft Principles are a good start at describing the watershed considerations that should be included in the planning process, but we believe some additional considerations would be useful.

First, we recommend adding specific language encouraging consideration of natural river and coastal processes, and disruptions to those processes, that affect all projects within a given watershed. Such analysis can bring valuable insight into the planning and design process. For example, often a condition that is seen as a cause of a water resource challenge (e.g., sedimentation) is actually a symptom of a larger watershed process issue

(e.g., channel adjustment related to changes in flow regime). Language should be added to this section to encourage assessment of how current river and coastal process dynamics are likely to impact a given project. In addition, language should be added to ensure evaluation of the impact the proposed water resource solution will have on watershed processes.

Another critical component of watershed-based planning is engagement of key stakeholders in a watershed. To have buy-in to a final product and to ensure that the outcome is integrated with other non-Federal activities within a watershed, it is important that stakeholders be intricately involved in setting priorities, identifying problems, and proposing solutions. Simple input to a process led solely by the Federal agency planning the project is typically not sufficient. Instead, use of existing watershed-based plans and consultation of key stakeholders at multiple points in the planning process is critical. Such an approach is consistent with the USACE Campaign Plan and the Army's emphasis on Environmental Conflict Resolution, and it has been successfully employed in Corps led efforts the Middle Mississippi River Partnership and in the Illinois River Basin. For these reasons, we believe explicit language emphasizing the integral role watershed stakeholders must play in the planning process should be included.

5. Science Based Analysis

This section improves the current Principles by encouraging a multi-disciplinary approach to water resources planning and highlighting the need for accurate and high quality data. This section should also recognize that other Federal, state and local agencies and outside groups often have expertise and data that can be useful to the planning process. For example, in the ecosystem restoration realm, NGOs like The Nature Conservancy have developed extensive data sets on ecologically significant land and water resources, and state agencies nation-wide have placed significant investment in prioritizing conservation actions through the State Wildlife Action Plans. Where possible, these and other important data sources should inform the planning process. Therefore, we recommend addition of language in this section stating that water resource planning should seek to fully incorporate outside expertise, data and existing plans developed by other Federal, state, local or non-profit entities.

6. Conditions

The Conservancy agrees that a key component of describing current conditions and evaluating future conditions affected by a given project is seeking data and input from interested parties. As stated above, many other agencies and interests have extensive expertise that can inform the planning process. Therefore, we support the language that was included in the draft Principles requiring inclusion of other parties in decision-making.

We believe this section is significantly lacking in the protocol for projecting future conditions. The draft Principles place a heavy focus on evaluating past and current trends and extrapolating from that information to make assumptions about future conditions. In

light of changes projected due to climate change, past trends may have little relationship to future conditions. Such analysis is likely to lead to project outcomes that do not reflect realistic future projections. To address this shortcoming, this section should specifically highlight the likelihood of climate change to significantly alter geomorphologic (including floodplains), hydrologic, ecological and climatic conditions including the increased variability that is likely to result. A requirement should be added that all water resources planning must seek to evaluate potential climate change impacts on future water resource conditions and design more resilient projects and systems that can respond to these conditions.

7. Plan Formulation

The plan formulation section includes some improvements over the current Principles and Guidelines. For example, ensuring water resource plans are consistent with other Federal, state, local and Tribal plans is important to ensure water resources projects are integrated with and complementary to other efforts. In addition, the recognition of non-structural plans as a valid alternative is a positive step towards ensuring non-structural alternatives are considered in the planning process. However, the Conservancy believes this section needs some significant improvements.

Foremost, we do not agree that the goal of plan formulation is to "determine the Federal interest in solving water resources problems." Instead, plan formulation should focus on identifying the most efficient and sustainable solutions to water resources problems, which will likely involve some combination of Federal and non-Federal actions. Determination of the Federal role, if any, should be evaluated at the end of the plan formulation effort after alternative plans are developed and should not be a factor driving plan formulation.

7.1 General Considerations

Non-structural Plans

The definition of a non-structural plan in the draft Principles does not reflect current scientific and engineering practice related to non-structural approaches. Non-structural approaches are typically defined much more broadly than projects that avoid or minimize changes to existing hydrologic and geomorphic conditions. This definition assumes the current condition, although it may be highly modified from natural conditions, is preferred. Instead of maintaining the status quo, non-structural approaches seek to minimize impacts to natural systems and/or restore natural river processes. For example, reconnection of a floodplain that had been disconnected from a river due to a levee or other structure is a critical non-structural approach that restores the capacity of ecosystems to provide flood risk reduction functions, but it is also an approach that modifies the current hydrological conditions and would not fit within the definition proposed in the draft Principles. As a result, we recommend defining non-structural plans as those "plans that maintain or restore natural hydrologic or geomorphic processes

by changed management, use of existing infrastructure, restoration of ecosystems, or by emphasizing alternatives that manage human activity and development."

Environmental

Environmental considerations in the plan formulation process should be described in broader terms than are proposed in the draft Principles. Water resources projects can have both environmental impacts, and in the case of ecosystem restoration and many non-structural flood risk reduction projects, environmental benefits. Our water resources policy must move away from an assumption that all projects will have a negative environmental impact and that projects that do not have an environmental impact (e.g. ecosystem restoration) do not have benefits to other water resources goals. Instead, we should look more holistically at the planning process and seek to identify projects that meet water resource goals (e.g. flood risk reduction, navigation, hydropower) with a net benefit to the environment or a minimal impact that can easily be offset with mitigation. As a result, language should be added to the environmental considerations paragraph to ensure that the environmental benefits and environmental degradation associated with a project are considered.

Consideration of the environment under the current water resources planning guidelines has focused on minimum compliance with Federal environmental statutes. This approach results in projects that both individually and cumulatively degrade the natural processes that provide habitat for species and the services (e.g. water quality, flood risk reduction, fisheries production) on which communities rely. Instead of determining whether a project does not exceed minimum thresholds of environmental degradation, environmental considerations should seek to maximize environmental objectives such as restoring and maintaining ecosystem processes and services and promoting long-term environmental sustainability. To reflect this holistic approach, we suggest broadening the criteria outlined under environmental considerations to evaluate the extent to which a project degrades or enhances natural watershed processes and contributes to long-term environmental sustainability.

Lifecycle Considerations

Lifecycle considerations are an important component of any planning process, and we are supportive of more explicitly considering this concept during plan formulation. In particular, the Principles should broaden the parameters for lifecycle considerations outlined in this paragraph. First, all projects should fully account for the life time costs of the projects, not just the short-term costs associated with construction or costs associated with an artificially defined project life span. This includes long-term operation and maintenance costs and in the case of structural projects, the costs of rebuilding or removing the project once it exceeds the expected project life span. Furthermore, language should be added to ensure lifecycle considerations take into account the long-term sustainability of both new and existing projects. For existing projects, this should involve an evaluation of whether the project is both economically and environmentally sustainable and what operations or additional features could be added to the project to

ensure sustainability. An example of this type of lifecycle consideration, is re-evaluating project operation to improve river flows for downstream ecosystems. This is an important activity to achieve sustainability and should be performed any time current projects are re-evaluated.

7.2 Alternative Plans

The Conservancy is supportive of adding a non-structural plan to the required set of alternatives that must be developed for every project. However, we do not feel that simply including a non-structural alternative is sufficient to ensure that these projects are recommended by the planning process. Non-structural plans are often more sustainable than structural alternatives, typically having lower long-term costs and impacting the environment less while still meeting water resources goals. However, the current planning process discounts long-term costs and does not include an explicit focus on sustainability, which reduces the likelihood of non-structural projects being the recommended alternative. Due to the widely accepted cost and sustainability benefits of non-structural projects, we believe the Principles should state an explicit preference for non-structural projects unless there is a sufficient economic, safety, engineering or other local concern that requires a structural approach.

We also suggest the inclusion of a fourth required alternative plan that maximizes NED, environmental quality, and non-structural approaches. The process outlined in the draft Principles would require the development of three plans, and could force planners to choose one of these plans at the expense of the others instead of seeking to maximize the best elements of all three. This may result in trade offs that do not result in the optimal outcome for the project. Therefore, we suggest that a fourth alternative that maximizes all three parameters should be required.

8. Evaluation of Plans

The Conservancy supports the general framework laid out for the evaluation of plans. In particular, we believe that the evaluation criteria described in the opening paragraph, including impacts on current and future uses of water resources, impacts of climate change, the relationship to other water resource projects, and the relationship to other existing plans, provide a sound framework for evaluating projects. In addition, the inclusion of multi-criterion evaluation provides a useful analytical tool to evaluate trade offs between various plans. While the detail provided about each of these criteria and protocols is sufficient for the Principles, all of these will need much additional clarification and definition in the subsequent Standards and Procedures.

As described above, we support a preference for non-structural projects given that they are often more economically and environmentally sustainable in the long-term. To achieve this preference, non-structural parameters should receive increased weighting in the multi-criteria decision analysis. This would not only provide preference to purely non-structural approaches but also give increased weight to those alternatives that include some non-structural components.

8.2 Required Accounts

Given all of the considerations for plan evaluation described in the opening paragraphs of this section, it is unclear how the five required accounts will ensure that all of these parameters are addressed. Relationship to other projects and plans and climate change impacts do not appear to be reflected in any of the required accounts. We would suggest consideration of additional accounts that ensure that the broad suite of evaluation criteria described at the beginning of this section are used in plan evaluation. Furthermore, the parameters evaluated in each account will need to be clarified in the development of the Standards. We also provide a number of specific suggestions for the National Economic Development and Environmental Quality accounts below.

National Economic Development

The parameters evaluated in the NED account should be significantly broadened from current practice. Life-cycle costs of projects are not adequately included in current NED analysis, as long-term costs are heavily discounted and often not considered past the projected life-span of the project. Non-structural projects often provide services in perpetuity with little additional investment required, where structural projects may have to be rebuilt or rehabilitated at significant cost once the project reaches a certain age. Therefore, an adequate comparison of these project types cannot be made based solely on short to medium-term costs. The true long-term costs of all projects, including the cost of rebuilding or rehabilitating a project once it reaches the end of its design life, should be explicitly incorporated into the NED analysis so that an adequate comparison can be made between all project types.

The NED analysis for all projects should also include an evaluation of the monetary values of ecosystem services that are gained or lost due to the project. It should be required that the NED analysis calculate the cost of replicating the gained or lost ecological benefit with a man-made structural process or project. For example, a given restoration or non-structural flood risk reduction project may improve water quality and increase flood storage capacity. These benefits should be quantified by comparing the ecosystem services gained as a result of the project to the cost of a man-made structural project (e.g. water filtration facility or levee) that would be necessary to achieve the same output. Similarly, the NED analysis for a project that changes a river's sediment regime and degrades downstream alluvial wetlands should include the cost of restoring those wetlands using artificial means. By evaluating services gained or lost due to a given project, the NED analysis would provide a much more complete representation of the total benefits and costs of a project.

Environmental Quality

The Conservancy supports a holistic evaluation of environmental quality benefits and losses that not only takes into account the narrow environmental impacts at the project

site but also evaluates watershed and coastal processes throughout the watershed or coastal area that are impacted by a proposed project. To date, environmental quality assessments have focused primarily on minimum compliance with the National Environmental Policy Act and other Federal environmental statutes, which has led to resource degradation with profound economic and environmental consequences. Instead of determining whether a project meets minimum requirements, the environmental quality analysis should seek to maximize environmental objectives of restoring and maintaining ecosystem processes and services and promoting long-term environmental sustainability.

9.1 Selection Criteria

The Conservancy supports the inclusion of a National Planning Objective Criterion and the requirement that all selected plans advance the National Planning Objective. However, unless the National Planning Objective is revised, as described in our comments on section 2, selected plans will not result in long-term sustainability of the nation's water resources or a coherent set of projects that advance national water resource goals.

In general, we find the Net Beneficial Effects Criterion confusing and in need of clarification. As described below in our comments regarding the evaluation criteria for specific project types, it is not clear how determinations will be made on when to quantify monetary versus non-monetary benefits nor how incremental cost-effectiveness analysis will be applied and incorporated into plan selection.

9.2 Project Types

The protocols for plan selection are not consistent with the concepts of watershed-based planning and multi-criteria evaluation described previously in the draft Principles. First, the separation of evaluation into distinct project types encourages "silo-ing" of projects and minimizes watershed-based integration. Furthermore, the focus on minimum benefit-cost ratios implies that economic return is the primary driver for selection of alternative plans. This minimizes the consideration of other factors such as reducing flood risk, restoring aquatic ecosystems, or maximizing other environmental objectives and does not reflect a multi-criteria approach.

We understand the value of a benefit-cost analysis for decision-making and are supportive of relying on a monetary evaluation as one factor in plan selection, particularly if a broad array of benefits and costs are incorporated into the monetary analysis as described above (e.g. life cycle costs and values of ecosystem services restored or degraded by the project). However, we believe maintaining benefit-cost ratios as the primary evaluation criteria in selecting a plan maintains a narrow focus on short-term economic gain. A broader set of criteria (e.g., safety, environmental and economic sustainability, and maintenance of ecosystem services) should be considered during plan selection. The three-tiered process for calculating project benefits for Navigation & Hydropower, Flood and Storm Damage Reduction, and Multiple Objective projects (i.e.,

monetary, non-monetary, and a mixture of both monetary and non-monetary) appears to leave leeway in determining the criteria that will be used to evaluate a project. However, it is not clear what justification would be used to determine which test to apply and what types of monetary or non-monetary values would be evaluated. This needs significant clarification in both the Principles and Standards.

Flood Risk Reduction

As stated previously, the Conservancy strongly supports a preference for non-structural projects. The proposed plan selection process in the draft Principles would rely heavily on benefit-cost ratios with no mention of non-structural projects. If the planning process is going to lead to more non-structural projects, this must be changed and increased weight should be given to plans with significant non-structural components.

Aquatic Ecosystem Restoration

Many of the terms and evaluation criteria for aquatic ecosystem restoration projects are unclear and inappropriate, and we believe these protocols should be significantly revised. The description of the criteria for choosing an alternative plan is confusing and does not provide a clear and useful framework for evaluating alternatives. There are also many terms contained that need more clarification. For example, "cost-effective" may be a useful criterion for evaluating ecosystem restoration projects, but there is not sufficient explanation of this term in the draft Principles to determine what exactly cost-effective means in the context of the planning process. Similarly, the terms "national perspective" and "national or regional significance" need further definition.

The focus on cost of ecosystem restoration as compared to other restoration projects is not a useful criterion for evaluating these projects. Such an approach is likely to result in selection of the cheapest ecosystem restoration projects, instead of those that address the most critical ecological issues or provide the greatest environmental return. A much more appropriate standard would be to select alternatives that achieve the greatest ecological return compared to the cost of restoration. As described earlier, ecological return can be evaluated by determining whether a project fulfills an existing restoration or conservation plan (e.g., State Wildlife Action Plan or Nature Conservancy Ecoregional Plan). Also, there should be an exemption from meeting a cost-effectiveness standard for projects that address a critical ecological need such as protecting an endangered species, avoiding future regulatory action, or restoring an ecosystem that provides critical ecosystem services (e.g., storm damage reduction) as part of a larger watershed management plan or water resources project.

Multiple Objectives

While the Conservancy is encouraged to see the recognition of multi-objective projects in the proposed Principles, isolating these projects in a separate category is unlikely to result in more multi-objective projects being constructed. By grouping selection criteria based largely on Corps business lines (e.g. navigation, flood risk reduction, aquatic ecosystem

restoration), the Plan Selection protocols would reduce the ability of the planning process to integrate projects across watersheds and recommend projects that adequately address multiple water resource needs. A better approach would be to integrate plan selection criteria across project types and then give increased weight to any project that meets multiple objectives. This would encourage consideration of multi-objective projects over traditional single purpose projects in all categories and likely result in projects that have a greater economic return and less impact on the environment.

Summary Recommendations

Process

- As the revision moves forward, implement a process to solicit input from water resource experts on the following issues: (1) shortcomings of the current principles and guidelines, (2) areas for additional investigation, (3) priority issues to address in this update, and (4) recommendations for changes.
- Based on the recommendations of outside experts and public input, draft revisions of the Standards and Procedures. After soliciting adequate public and expert comment on the Principles, Standards and Procedures as a single, unified document, proceed with finalizing the revision.

National Planning Objective

- Craft a National Planning Objective that articulates a comprehensive long-term vision to achieve, sustainability, maintenance and restoration of natural processes and ecosystem services, public safety, and a balance between multiple water resource goals.

Planning Considerations

- Emphasize the ability of climate change to alter future water resource conditions and require that the planning process adequately address potential future impacts on all water resource projects from changed hydrological, geomorphologic, and ecological conditions associated with climate change.
- When considering watershed impacts of a project, emphasize the role of maintaining and restoring natural river and coastal process to the extent practicable given current uses and conditions.
- Emphasize the necessity of integrating watershed stakeholders and outside experts into any watershed planning process.
- Encourage the use of outside data, plans and expertise in the water resource planning process.
- Ensure that the plan formulation criteria are focused on water resource solutions that involve both Federal and non-Federal actions and do not limit plan formulation to a focus on identifying the Federal interest in a project.
- Revise the definition of non-structural plans to better reflect current scientific and engineering consensus on non-structural approaches.
- Include a broader and more holistic evaluation of environmental impacts – both environmental enhancement and degradation – focusing on maximizing

environmental objectives and moving away from minimum compliance with Federal environmental statutes.
- Include long-term operation and maintenance costs in the consideration of lifecycle impacts of a project.

Plan Evaluation

- Give preference to non-structural alternatives unless there is a sufficient economic, safety, or engineering concerns that justify a structural solution. This includes giving increased weight in the multi-criteria decision analysis to projects with non-structural elements.
- Require a fourth alternative plan that seeks to maximize elements of the other three required plans – NED, environmental quality, and non-structural.
- Include complete life-cycle costs and the monetary value of ecosystem services gained or lost in the NED analysis.
- Evaluate impacts to watershed-wide natural processes and long-term environmental sustainability in the Environmental Quality analysis.

Plan Selection

- Clarify how monetary and non-monetary benefits and cost-effective analysis will be used to select alternative plans.
- Minimize the focus on benefit cost-ratios as the primary criteria for selecting alternative plans.
- Remove the distinction between project types in plan selection and set protocols that apply to all projects.
- Give increased weight in the plan selection process to any project that meets multiple objectives or uses a non-structural approach.
- Clarify the terms used to evaluate aquatic ecosystem restoration, such as "national or regional significance" and "national perspective."
- Minimize the focus on cost of restoration as an over-arching criteria for selection of ecosystem restoration projects and instead focus on achieving the greatest ecological return compared to the cost.

Conclusion

The Conservancy believes that this draft is an important step in updating the Principles and Guidelines. However, we hope that this will be one step in a very robust, analytical and iterative process that continually seeks stakeholder and expert input. We thank you for the opportunity to comment and hope to continue to work with the Corps as the process moves forward.

If you have any additional questions, please contact Jason Albritton, Senior Policy Advisor for Water Resources (703-841-4105; jalbritton@tnc.org).